

Amendment to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1. (Currently Amended) A method of detecting one or more biomarkers of a rare cell type in a sample containing a mixed population of cells, the method comprising ~~the steps of:~~

immunomagnetically isolating from the sample a subpopulation of cells containing a rare cell type ~~by contacting the sample~~ with one or more antibody compositions, wherein each antibody composition ~~being~~ is specific for a ~~capture~~ cell surface antigen ~~of the rare cell type~~, and ~~being wherein each antibody composition is~~ attached to a magnetic particle;

~~providing a combining with the subpopulation one or more different~~ binding compound compounds for each of the one or more different biomarkers of the rare cell type, such that, in the presence of a biomarker, a complex is formed between each biomarker and the binding compound specific therefor, wherein each binding compound ~~having~~ has one or more molecular tags releasably attached thereto, and wherein the one or more molecular tags of each different binding compound ~~having~~ has a distinct separation characteristic so that the one or more molecular tags of each different binding compound form distinct peaks in a separation profile upon separation;

~~combining with the subpopulation a binding compound for each of the plurality of biomarkers such that in the presence of a biomarker a complex is formed between each biomarker and the binding compound specific therefor;~~

releasing the one or more molecular tags of each binding compound ~~forming such a complex~~; and

separating and identifying the released molecular tags to determine the one or more biomarkers in the sample.

2. (Original) The method of claim 1 therein said capture antigen is a receptor tyrosine kinase.

3. (Original) The method of claim 2 wherein said tyrosine kinase is an ErbB receptor.

4. (Currently Amended) A method of detecting one or more protein-protein complexes of a rare cell type in a sample containing a mixed population of cells such that each protein-protein complex has a first protein and a second protein, the method comprising the steps of:

immunomagnetically isolating from the sample a subpopulation of cells containing a the rare cell type by contacting the sample with one or more antibody compositions, wherein each antibody composition being is specific for a capture cell surface antigen of the rare cell type and being wherein each antibody composition is attached to a magnetic particle;

combining with the subpopulation of cells providing a

(a) one or more different first binding compound compounds specific for each first protein of each of the one or more protein-protein complexes of the rare cell type, wherein each first binding compound has having one or more molecular tags releasably attached thereto, the one or more molecular tags of each different first binding compound having a distinct separation characteristic so that the one or more molecular tags of each different first binding compound form distinct peaks in a separation profile upon separation; and

(b) one or more different second binding compounds specific for each second protein of each of the one or more protein-protein complexes of the rare cell type, wherein each second binding compound is conjugated to a cleaving-inducing moiety having an effective proximity;

~~providing a second binding compound specific for each second protein of each of the one or more protein-protein complexes, each second binding compound being conjugated to a cleaving-inducing moiety having an effective proximity;~~

~~combining with protein-protein complexes of the subpopulation, the first binding compounds and the second binding compounds, such that~~

wherein each of the first binding compounds specifically bind to first proteins binds to each first protein and each of the second binding compounds specifically bind to second proteins

binds to each second protein, and wherein the one or more molecular tags of each first binding compound are released; and

separating and identifying the released molecular tags to ~~determine~~ detect the one or more ~~biomarkers~~ protein-protein complexes in the sample.

5. (Original) The method of claim 4 wherein said protein-protein complex is a receptor dimer.
6. (Original) The method of claim 5 wherein said receptor dimer comprises one or more ErbB receptors.
7. (Original) The method of claim 4 wherein said protein-protein complex comprises one or more ErbB receptors or comprises PI3K.
8. (Original) The method of claim 7 wherein said protein-protein complex is selected from the group consisting of Her1//Shc, Her2//Shc, Her3//Shc, Her3//PI3K, and IGF-1R//PI3K.
9. (New) The method of claim 1, wherein the rare cell type is a cancer cell.
10. (New) The method of claim 1, wherein the rare cell type is a fetal cell.
11. (New) The method of claim 4, wherein the rare cell type is a cancer cell.
12. (New) The method of claim 4, wherein the rare cell type is a fetal cell.
13. (New) The method of claim 1, wherein the sample is a patient sample.
14. (New) The method of claim 1, wherein the sample is a biological sample.
15. (New) The method of claim 14, wherein the biological sample is a culture, blood, saliva, cerebral spinal fluid, pleural fluid, milk, lymph, sputum, semen, or needle aspirate sample.
16. (New) The method of claim 15, wherein the biological sample is a blood sample.
17. (New) The method of claim 4, wherein the sample is a patient sample.

18. (New) The method of claim 4, wherein the sample is a biological sample.
19. (New) The method of claim 18, wherein the biological sample is a culture, blood, saliva, cerebral spinal fluid, pleural fluid, milk, lymph, sputum, semen, or needle aspirate sample.
20. (New) The method of claim 19, wherein the biological sample is a blood sample.